TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION Effective July 1, 2011
WIN-851

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **January 2012**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

Heritage Wood Operating Push Out Casement Windows, Individual, Impact Resistant, manufactured by

Kolbe & Kolbe Millwork Co., Inc.
1323 South Eleventh Avenue
Wausau, WI 54401
(715) 842 - 5666

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

The wood operating push out casement windows evaluated in this report are impact resistant. This product evaluation report is for wood operating push out casement windows based on the following tested constructions:

General Description:

System	Description	Label Rating	Hallmark Certification
1	Heritage Pushout Casement Wind Zone 4	C-C65 36 x 72 CW-PG65 36 x 72 - C	413-H-1105.00 413-H-1105.01 413-H-1105.02 413-H-1105.04 413-H-1105.05 413-H-1105.06

General Description (cont):

System	Description	Label Rating	Hallmark Certification
2	Heritage Operating Round Top Push Out Casement; Multi-point Point Lock; Tri Euro Hinges; Missile Level D, Wind Zone 4	C-C60 36 x 72	413-H-975.00 413-H-975.01 413-H-975.02 413-H-982.00 413-H-982.01 413-H-982.02
3	Heritage Operating Segment Head Push Out Casement; Multi-point Point Lock; Tri Euro Hinges; Missile Level D, Wind Zone 4	C-C65 36 x 72	413-H-977.00 413-H-977.01 413-H-977.02 413-H-983.00 413-H-983.01 413-H-983.02
4	Heritage Operating Quarter-Circle Push Out Casement; Multi-point Point Lock; Tri Euro Hinges; Missile Level D, Wind Zone 4	C-C45 36 x 72	413-H-956.00 413-H-956.01 413-H-956.02 413-H-984.00 413-H-984.01 413-H-984.02
5	Heritage Operating Round Top Push Out Casement; Multi-point Point Lock; Tri Euro Hinges; Missile Level D, Wind Zone 3	C-C60 36 x 72	413-H-975.00 413-H-975.01 413-H-975.02 413-H-985.00 413-H-985.01 413-H-985.02
6	Heritage Operating Segment Head Push Out Casement; Multi-point Point Lock; Tri Euro Hinges; Missile Level D, Wind Zone 3	C-C65 36 x 72	413-H-977.00 413-H-977.01 413-H-977.02 413-H-986.00 413-H-986.01 413-H-986.02
7	Heritage Operating Quarter-Circle Push Out Casement; Multi-point Point Lock; Tri Euro Hinges; Missile Level D, Wind Zone 3	C-C45 36 x 72	413-H-956.00 413-H-956.01 413-H-956.02 413-H-987.00 413-H-987.01 413-H-987.02

PRODUCT DESCRIPTION

Product Dimensions:

System	Overall Size	Sash Size	Glass Size(s)
1	36” x 72”	34 1/16” x 70 1/16”	29 13/16” x 65 13/16”
2	36” x 72”	34 1/8” x 70 1/8”	29 13/16” x 65 13/16”
3	36” x 72”	34 1/8” x 70 1/8”	29 13/16” x 65 13/16”
4	36” x 72”	34 1/8” x 70 1/8”	29 13/16” x 65 13/16”
5	36” x 72”	34 1/8” x 70 1/8”	29 13/16” x 65 13/16”
6	36” x 72”	34 1/8” x 70 1/8”	29 13/16” x 65 13/16”
7	36” x 72”	34 1/8” x 70 1/8”	29 13/16” x 65 13/16”

Glazing Description:

System	Glass Construction [1]	Glazing Method [2]
1	IG-1 or IG-2	GM-1
2	SG-1	GM-1
3	SG-1	GM-1
4	SG-1	GM-1
5	IG-1	GM-1
6	IG-1	GM-1
7	IG-1	GM-1

Note: [1] See the "Glass Construction Key" for the glass construction.
[2] See the "Glazing Method Key" for the glazing method description.

Glass Construction Key:

SG-1: Single glazed with a laminated glass unit. The laminated glass unit is comprised of two $\frac{5}{32}$" annealed glass lites separated by a 0.090" PVB/0.007" PET interlayer. The glass thickness used in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

IG-1: Sealed insulating glass unit. The sealed insulating glass unit is comprised of a laminated glass unit and a double strength ($\frac{1}{8}$") annealed glass lite that are separated by a stainless steel spacer system. The laminated glass unit is comprised of two $\frac{5}{32}$" annealed glass lites separated by a 0.090" SGP interlayer. The glass thickness used in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

IG-2: Sealed insulating glass unit. The sealed insulating glass unit is comprised of a laminated glass unit and a double strength ($\frac{1}{8}$") fully tempered glass lite that are separated by a stainless steel spacer system. The laminated glass unit is comprised of two $\frac{5}{32}$" annealed glass lites separated by a 0.090" SGP interlayer. The glass thickness used in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

Glazing Method Key:

GM-1: The glass unit is set from the interior against a bed of silicone sealant backbedding with a $\frac{1}{2}$" glazing bite. Another silicone bead is run full length at the bottom of the glass unit and a vinyl glazing bracket is installed into a kerf in the sash. Wood glazing stops are utilized along the interior and are secured with brads spaced 2 inches from each end and 5-6 inches on center.

Frame Construction (System 1): The frame members consist of molded Ponderosa pine. The frame corners are rabbeted, butted, sealed with silicone, and secured with staples. Interior wood stops are secured to the window frame at the head and side jambs with staples. The brickmould is secured to the side jambs and to the head with autonail wires. The brickmould is mitered and secured with two nails per corner. The sill nosing is secured to the brickmould with one (1) screw per corner and to the frame sill with glue and T-nails.

Sash Construction (System 1): The sash members consist of molded maple with a veneer to the interior. The sash corners are open mortise and tenon construction and secured with brads. A Euro-groove is molded into the edge of the lock stile which the hardware is installed.

Round Top Frame Construction (Systems 2 & 5): The frame members consist of molded Ponderosa pine. The frame corners are rabbeted, butted, sealed with silicone, and secured with staples.

Round Top Sash Construction (Systems 2 & 5): The sash members consist of molded maple with a veneer to the interior. The sash corners are open mortise and tenon construction and secured with one No. 8 x 2 ¼" screw through the stile and into the bottom rail per corner. The sash is one continuous finger-jointed piece with no joint within six inches of the spring line.

Segment Frame Construction (Systems 3 & 6): The frame members consist of molded Ponderosa pine. The frame corners are rabbeted, butted, sealed with silicone, and secured with staples at the sill and three (3) No. 8 x 2 ¼" screws through the head.

Segment Sash Construction (Systems 3 & 6): The sash members consist of molded maple with a veneer to the interior. The sash corners are open mortise and tenon construction and secured with one No. 8 x 2 ¼" screw through the stile and into the bottom rail at the head. The sash is one continuous finger-jointed piece with no joint within six inches of the spring line.

Quarter-Circle Frame Construction (Systems 4 & 7): The frame corners are rabbeted, butted, sealed with silicone, and secured with staples at the sill and three (3) No. 8 x 2 ¼" screws through the head.

Quarter-Circle Sash Construction (Systems 4 & 7): The sash members consist of molded maple with a veneer to the interior. The sash corners are open mortise and tenon construction and secured with glue and two (2) No. 6 x 1 ½" screws through the stile and into the bottom rail per corner. The top radius corner is coped and butted and secured with one (1) No. 8 x 2 ¼" screw through the stile and into the end rail.

Hardware (System 1):

- Handle activated three-point lock with metal keepers; One (1) required; Located on the side jamb.
- Tri-Euro hinges; Four (4) required; Located on the hinge side jamb.
- Truth friction adjuster; Two (2) required; Located on the frame head and sill.

Hardware (Systems 2 thru 7):

- Handle activated three-point lock with metal keepers; One (1) required; Located on the side jamb.
- Tri-Euro hinges; Three (3) required; Located on the hinge side jamb.
- Truth friction adjuster; One (1) required; Located on the frame head and sill.

Product Identification:

System 1: A certification program label (WDMA Hallmark Certified) will be affixed to the window. The certification program label includes the manufacturer's name; product name; performance characteristics; the approved inspection agency (WDMA); and the applicable standards: AAMA/WDMA/CSA 101/I.S.2/A440-05, AAMA/WDMA/CSA 101/I.S.2/A440-08, and ASTM E 1886 and ASTM E 1996.

Systems 2 thru 7: A certification program label (WDMA Hallmark Certified) will be affixed to the window. The certification program label includes the manufacturer's name; product name; performance characteristics; the approved inspection agency (WDMA); and the applicable standards: AAMA/WDMA 101/I.S.2/A440-05, AAMA/WDMA 101/I.S.2/NAFS-02, and ASTM E 1886-05 and ASTM E 1996-05.

LIMITATIONS

Design pressures (DP):

System	Overall Width (in.)	Overall Height (in.)	Design Pressure (psf)
1	36	72	+65/-70
2	36	72	± 45
3	36	72	± 45
4	36	72	± 45
5	36	72	+45/-50
6	36	72	+45/-50
7	36	72	+45/-50

Impact Resistance: These assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the both the **Inland I zone** and the **Seaward zone**. These assemblies passed Missile Level D specified in ASTM E 1996-05. These assemblies may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded. These assemblies will not need to be protected with an impact protective system.

Acceptance of Smaller Assemblies: Window assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

Tested Higher Negative Design Pressure (Systems 1, 5, 6, and 7): The WDMA label indicates that the product was tested to a higher negative pressure. The higher negative design pressure is specified in the table above and on the WDMA label.

INSTALLATION INSTRUCTIONS

General: The window assembly shall be prepared and installed in accordance with the manufacturers recommended installation instructions. Detailed installation instructions and drawings are available from the manufacturer.

Installation:

Option 1: The window assembly shall be fastened to minimum Southern Yellow Pine lumber. The window assembly is secured to the wall framing using Kolbe & Kolbe metal installation clips. The installation clips (1 5/8" x 10 1/16" x 0.04") are secured to the window frame side jambs, head, and sill. The clips are secured to the window frame with two (2) No. 8 x 3/4" screws. The clips are secured to the wall framing with one (1) No. 8 x 1 3/4" screw. The fasteners shall be long enough to penetrate a minimum of 1 1/2" into the wall framing. The spacing of the clips is specified in the table below.

Installation Clip Spacing:

System	Distance From Each Corner	Head (on center spacing)	Sill (on center spacing)	Side Jambs (on center spacing)
1	18"	None	None	18"
2 & 5	14 3/8"	18"	12"	18"
3 & 6	18"	18"	18"	18"
4 & 7	14 3/8"	18"	12"	14"

Option 2: The window assembly shall be fastened to minimum Southern Yellow Pine lumber. The window assembly is secured to the wall framing using the window frame with minimum No. 10 screws. The fasteners shall be long enough to penetrate a minimum of 1 ½" into the wall framing. The spacing of the fasteners is specified in the table below.

Fastener Spacing:

System	Distance From Each Corner	Head (on center spacing)	Sill (on center spacing)	Side Jambs (on center spacing)
1	Head/Sill: 12" Side Jambs: 10 19/64"	12"	12"	10 19/64"
2 & 5	12"	18"	12"	12"
3 & 6	14 3/8"	18"	18"	14 3/8"
4 & 7	12"	18"	12"	12"

Brickmould (System 1): The brickmould is secured to the wall framing with 2" long T-nails spaced 24 inches on center.

Brickmould (Systems 2 thru 7): The brickmould is secured to the wall framing with 2" long T-nails spaced s inches from each end and 8-10 inches on center at the head and side jambs. The sill nosing is secured to the brickmould with one (1) No. 9 x 2: screw per corner and to the frame sill with glue and T-nails spaced 3 inches from each end and 8-10 inches on center. Interior wood stops are secured at the head, sill, and side jambs with staples spaced 2 inches from each end and 8-10 inches on center.

Note: The manufacturer's installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.